

WHAT WE CLAIM IS:

1. A computer-generated hologram with a complex amplitude of object light recorded therein so that a stereoscopic object is reconstructible, wherein:

5 a group of virtual point light sources is spatially set on a side opposite to a viewing side of the hologram, a luminance angle distribution  $T_{WLC1}(\theta_{xz}, \theta_{yz})$  of divergent light from each virtual point light source in said group of virtual point light sources toward said viewing side is  
10 set in such a way as to be equal to a luminance angle distribution on a surface of an object to be recorded as said virtual point light source is viewed from the viewing side, and an initial phase of divergent light diverging from each of said virtual point light sources is kept  
15 constant independently among said virtual point light sources, so that divergent light beams from said virtual point light sources are superposed one upon another and recorded as object light in any position on a viewing side of said group of virtual point light sources, on  
20 which the divergent light is incident.

2. The computer-generated hologram according to claim 1, wherein each virtual point light source in said group of virtual point light sources comprises a one-dimensional point light source that is also a two-  
25 dimensional straight line light source.

3. A computer-generated hologram with a complex amplitude of object light recorded therein so that a

stereoscopic object is reconstructible, wherein:

upon incidence of given reconstructing illumination light thereon, there is reconstructed diffraction light that diverges from each point in a spatial group of virtual points toward a viewing side of a hologram wherein said spatial group of virtual points is located on a side opposite to the viewing side, and wherein a luminance angle distribution of light propagating in such a way as to diverge from each virtual point toward the viewing side of the hologram is equal to a luminance angle distribution of light that diverges from a surface of a recorded object to a viewing side thereof via each point in said group of virtual points.

4. The computer-generated hologram according to claim 3, wherein each virtual point in said group of virtual points comprises a one-dimensional point that is also two-dimensional straight line.

5. A computer-generated hologram with a complex amplitude of object light recorded therein so that a stereoscopic object is reconstructible, wherein:

a group of virtual condensing points is spatially set on a viewing side of a hologram, an luminance angle distribution  $T_{\text{inc1}}(\theta_{xz}, \theta_{yz})$  of convergent light incident on each condensing point in said group of virtual condensing points from a side opposite to the viewing side is set in such a way as to be equal to a luminance angle distribution on a surface of an object to be recorded as

viewed for the viewing side through said virtual  
condensing point, and a phase of convergent light incident  
on each condensing point in said group of virtual  
condensing points is kept constant independently among  
5 said virtual condensing points, so that convergent light  
beams are superposed one upon another and recorded as  
object light in any position on a side opposite to a  
viewing side of said group of virtual condensing points,  
on which convergent light is incident.

10 6. The computer-generated hologram according to  
claim 5, wherein each virtual condensing point in said  
group of virtual condensing points comprises a one-  
dimensional condensing point that is also a two-  
dimensional condensing straight line.

15 7. A computer-generated hologram with a complex  
amplitude of object light recorded therein so that a  
stereoscopic object is reconstructible, wherein:

upon incidence of given reconstructing illumination  
light thereon, there is reconstructed diffraction light  
20 that diverges from each point in a spatial group of  
virtual points on a viewing side of a hologram, wherein a  
luminance angle distribution of light diverging from each  
virtual point is equal to a luminance angle distribution  
of light diverging from a surface of a recorded object on  
25 a viewing side thereof through each point in said group of  
virtual points.

8. The computer-generated hologram according to claim 7,  
wherein each virtual point in said group of virtual points

comprises a one-dimensional point that is also a two-dimensional straight line.